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Simulations of the pinch-off and coalescence of conical droplets CASEY BARTLETT, Boston University, GUILLAUME GENERO, Boston University/Ecole Polytechnique, JAMES BIRD, Boston University — In the presence of electric fields, pairs of liquid drops can be rapidly drawn together such that, at contact, the deformed interface resembles a double-cone. Following contact, these drop pairs are observed to either coalesce or recoil. Here we use high-resolution numerical simulations to highlight the impact of the initial double-cone angle on drop coalescence. The results demonstrate a self-similar behavior at intermediate scales for both coalescence and recoil that is independent of the other length-scales in the problem and is consistent with previous experiments.

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